# Data Sheet
# Fujitsu PRIMERGY BX922 S2 Dual-Socket Server Blade

## Future-oriented Server Blade with all the prerequisites for virtualization environments

The PRIMERGY BX Blade Servers are the ideal choice for data center solutions of today and tomorrow. Our blade servers provide maximum performance and maximum redundancy, but with only minimum space requirements, low power consumption and a reduction in the time and effort required for cabling. The PRIMERGY BX system family is designed to share components between chassis in order to react quickly and easily to changing business requirements. Storage and server blades can be added without any extra effort, as would be needed when cabling or adding management software. You can use the same applications, rely on the same server and storage components and establish connections to the same networks. The PRIMERGY BX Blade Servers are flexible and have complete control via a central administration instance that is redundant in design; they minimize administrative time and effort, freeing you of time-consuming administration tasks. Our build-to-order process ensures that only completely installed and previously tested solutions are supplied, which have been precisely adapted to individual requirements and which will grow with future business requirements.

### PRIMERGY BX922 S2

The PRIMERGY BX922 S2 Server Blade uses up to two CPUs in the Intel® Xeon® processor 5000 sequence with up to 6 cores, including the first 32nm processors. Chipset and CPU offer comprehensive, hardware-based virtualization support which is supplemented by the additional functions on the new onboard Gigabit Ethernet Controller Intel® 82576. The main memory configuration with up to 12 DIMM modules rounds off the picture - the road is open for consolidation strategies which are aligned with virtualization with hypervisor solutions from VMware, Microsoft, RedHat, Suse or Citrix. The design of the PRIMERGY BX922 S2 is very flexible regarding the boot options as - in addition to the increasing use of SAN or NAS - local booting via Solid State Disks and - especially for VMware ESXi - via a USB connected flash module is available. The efficient administration of the entire system via ServerView is supported by the integrated Remote Management Controller (iRMC S2); the hardware monitoring and setting options can thus be optimally visualized in order to use all options at the highest energy-efficiency levels.



# Features and Benefits

| Main Features | Benefits |
|---|---|
| **Performance due to processor technology** | |
| ■ Two Dual-Core, Quad-Core or Six-Core CPUs with Intel® Xeon® processor 5500 and 5600 series with Turbo Boost technology, Demand Based Switching, QuickPath Interconnect (QPI) and internal Memory Management Unit. The Intel® QuickPath architecture memory controllers provide the BX922 S2 with a high-speed bandwidth of up to 25 Gigabytes/second (GB/s) between the individual processors, the processors and the memory, as well as between the processors and the I/O hub. | ■ Performance that can be tuned with constant energy consumption and heat dissapation.<br>■ The optional use of two processor generations offers a choice for both the price-conscious user as well as the demanding high-performance user. |
| **Top virtualization support** | |
| ■ Two integrated dual-channel Intel® 82576 Gb Ethernet controllers are standard. The integrated Intel® virtualization technology for connectivity contains - in addition to I/O acceleration technology and the Virtual Machine Device Queues - Single Root IO virtualization SR-IOV as well.<br>■ Two PCI Express 2.0 Mezzanine slots with a combination of quad-channel 1 Gb Ethernet, dual-channel 10Gb Ethernet, dual-channel 8 Gb Fibre Channel, dual-channel 10 Gb CNA (FCoE), and dual-channel 40 Gb Infiniband (QDR) offer excellent connection features via a high-performance midplane. The high server blade I/O capacity allows optimal use of various I/O protocols, ensuring smooth operations for demanding applications. | ■ Best-in-class I/O connectivity.<br>■ High flexibility regarding the type of I/O connection.<br>■ As a result of bypassing the internal hypervisor virtual switch SR-IOV enables virtual machines to reach a performance level which is almost the same as pure physical machines. |
| **Flexible boot options** | |
| ■ Various server boot options, e.g. from the network, from Hard Disk or Solid State Drives or from a USB Flash module (for VMware ESXi) make the server ideal for every application. It is an excellent platform for both virtualized and physical environments. | ■ Multiple use, optimized for virtualization and extremely energy efficient regarding usable local boot media. |
| **Worry-free administration** | |
| ■ Management via the integrated Remote Management Controller (iRMC S2) enables access to each server and extensive control, even at remote locations. The integrated Pre-failure Detection and Analysis function provides reliable operations in all circumstances. | ■ Easy and reliable management and control. |

# Technical details

| Mainboard | |
|---|---|
| **Mainboard type** | D 2861 |
| **Chipset** | Intel® 5500 |
| **Processor quantity and type** | 1 - 2 x Intel® Xeon® processor E5500 series / Intel® Xeon® processor E5600 series / Intel® Xeon® processor L5600 series / Intel® Xeon® processor X5600 series |

| | |
|---|---|
| Processor | Intel® Xeon® processor E5503<br>(2C/2T, 2.00 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W) |
| | Intel® Xeon® processor E5506<br>(4C/4T, 2.13 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W) |
| | Intel® Xeon® processor E5507<br>(4C/4T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 80 W) |
| | Intel® Xeon® processor E5603<br>(4C/4T, 1.60 GHz, SLC: -, TLC: 4 MB, Turbo: No, 4.8 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5606<br>(4C/4T, 2.13 GHz, SLC: -, TLC: 8 MB, Turbo: No, 4.8 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5607<br>(4C/4T, 2.26 GHz, SLC: -, TLC: 8 MB, Turbo: No, 4.8 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5620<br>(4C/8T, 2.40 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5630<br>(4C/8T, 2.53 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5640<br>(4C/8T, 2.66 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 80 W) |
| | Intel® Xeon® processor E5645<br>(6C/12T, 2.40 GHz, SLC: -, TLC: 12 MB, Turbo: 1/1/1/1/2/2, 5.86 GT/s, Mem bus: 1333 MHz, 80 W) |
| | Intel® Xeon® processor E5649<br>(6C/12T, 2.53 GHz, SLC: -, TLC: 12 MB, Turbo: 1/1/1/1/2/2, 5.86 GT/s, Mem bus: 1333 MHz, 80 W) |
| | Intel® Xeon® processor L5609<br>(4C/4T, 1.86 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: No, 4.8 GT/s, Mem bus: 800 MHz, 40 W) |
| | Intel® Xeon® processor L5630<br>(4C/8T, 2.13 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 40 W) |
| | Intel® Xeon® processor L5640<br>(6C/12T, 2.26 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/3/3/4/4, 6.4 GT/s, Mem bus: 1333 MHz, 60 W) |
| | Intel® Xeon® processor X5647<br>(4C/8T, 2.93 GHz, SLC: -, TLC: 12 MB, Turbo: 1/1/2/2, 5.86 GT/s, Mem bus: 1066 MHz, 130 W) |
| | Intel® Xeon® processor X5650<br>(6C/12T, 2.66 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W) |
| | Intel® Xeon® processor X5660<br>(6C/12T, 2.80 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W) |
| | Intel® Xeon® processor X5667<br>(4C/8T, 3.06 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W) |
| | Intel® Xeon® processor X5670<br>(6C/12T, 2.93 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W) |
| | Intel® Xeon® processor X5675<br>(6C/12T, 3.06 GHz, SLC: -, TLC: 12 MB, Turbo: 2/2/2/2/3/3, 6.4 GT/s, Mem bus: 1333 MHz, 95 W) |
| | Intel® Xeon® processor X5677<br>(4C/8T, 3.46 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W) |
| | Intel® Xeon® processor X5680<br>(6C/12T, 3.33 GHz, SLC: 4 x 256 KB, TLC: 12 MB, Turbo: 1/1/1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W) |
| | Intel® Xeon® processor X5687<br>(4C/8T, 3.60 GHz, SLC: -, TLC: 12 MB, Turbo: 1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W) |
| | Intel® Xeon® processor X5690<br>(6C/12T, 3.46 GHz, SLC: -, TLC: 12 MB, Turbo: 1/1/1/1/2/2, 6.4 GT/s, Mem bus: 1333 MHz, 130 W) |
| **Memory slots** | 12 (3 channels per CPU with 2 slots each) |
| **Memory slot type** | DIMM (DDR3) |
| **Memory capacity (min. - max.)** | 2 GB - 192 GB |

| | |
|---|---|
| **Memory protection** | Advanced ECC<br>Memory Scrubbing<br>SDDC (Chipkill™)<br>Memory Mirroring support<br>Hot-spare memory support |
| **Memory Modules Independent Mode** | 2 GB (1 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 2 GB (1 module(s) 2 GB) DDR3, unbuffered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 2 GB (1 module(s) 2 GB) DDR3 LV, unbuffered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 4 GB (1 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 4 GB (1 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 8 GB (1 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 8 GB (1 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 16 GB (1 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM |
| **Memory Modules Mirrored Mode** | 4 GB (2 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 8 GB (2 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 8 GB (2 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 16 GB (2 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 16 GB (2 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 32 GB (2 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM |
| **Memory Modules Spare or Performance Mode** | 6 GB (3 module(s) 2 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 12 GB (3 module(s) 4 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 12 GB (3 module(s) 4 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 24 GB (3 module(s) 8 GB) DDR3, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 24 GB (3 module(s) 8 GB) DDR3 LV, registered, ECC, 1333 MHz, PC3-10600, DIMM |
| | 48 GB (3 module(s) 16 GB) DDR3, registered, ECC, 1066 MHz, PC3-8500, DIMM |
| **Interfaces** | |
| **USB ports** | 4 x USB at the front via special cable |
| **Graphics (15-pin)** | 1 x VGA at the front via special cable |
| **Serial connection** | 1 x RS232 (9-pin) at the front via special cable |
| **LAN / Ethernet (RJ-45)** | 4 x Gbit Ethernet via Midplane to Ethernet Connection Blade |
| **Service LAN (RJ45)** | Service LAN traffic can be switched to shared onboard Gbit LAN port |
| **I/O controller on board** | |
| **RAID Controller** | RAID 0/1 for internal drives |
| **SATA Controller** | ICH10R |
| **LAN Controller** | 2 x Intel® 82576, 4 x 10/100/1000 Mbit/s Ethernet, Intel® VT-c (includes I/OAT, VMDq, VMDc = PCI-SIG SR-IOV) |
| **Remote Management Controller** | Integrated Remote Management Controller (iRMC S2, 32 MB attached memory incl. graphics controller), IPMI 2.0 compatible |
| **Trusted Platform Module (TPM)** | Infineon / 1.2 (option) |
| **Slots** | |
| **PCI-Express 2.0 x8** | 2 x BX900 Mezzanine Card |
| **Drive bays** | |
| **Hard disk bays** | 2 x 2.5-inch non hot-plug SATA HDD / 2.5-inch non hot-plug SATA SSD |
| **Hard disk bay configuration** | BX922 Disk Drive Mounting Kit needed for HDD/SSD support |
| **Operating panel** | |
| **Operating buttons** | On/off switch<br>ID button |

| | |
|---|---|
| **Operating panel** | |
| **Status LEDs** | Power (amber / green)<br>System status (amber)<br>LAN connection (green)<br>Identification (blue)<br>CSS (yellow) |
| **BIOS** | |
| **BIOS features** | Local and remote update via ServerView Update Manager<br>Online update tools for main Windows and Linux versions<br>SMBIOS V2.6<br>Remote PXE boot support<br>Remote iSCSI boot support |
| **Operating Systems and Virtualization Software** | |
| **Certified or supported operating systems and virtualization software** | Microsoft® Windows HPC Server® 2008 R2 Suite<br>Microsoft® Windows® Server 2008 Datacenter<br>Microsoft® Windows® Server 2008 Enterprise<br>Microsoft® Windows® Server 2008 Standard<br>VMware vSphere™ 4.1<br>VMware vSphere™ 4.1 Embedded<br>VMware vSphere™ 4.0 Installable<br>VMware vSphere™ 4.0<br>VMware vSphere™ 4.0 Embedded<br>VMware vSphere™ 4.0 Installable<br>Novell® SUSE Linux Enterprise Server 11<br>Novell® SUSE Linux Enterprise Server 10<br>Novell® SUSE Linux Enterprise Server 10 with XEN<br>Red Hat® Enterprise Linux 6<br>Red Hat® Enterprise Linux 5<br>Red Hat® Enterprise Linux 5 with XEN<br>Citrix® XenServer® |
| **Operating system release link** | http://docs.ts.fujitsu.com/dl.aspx?id=a9e600b9-e4cb-4f48-aa41-632f69058421 |
| **Operating system notes** | Support of other Linux derivatives on demand |
| **Server Management** | |
| **Standard** | ASR&R Automatic Server Recovery and Restart<br>PDA Prefailure Detection and Anaylsis<br>ServerView Suite:<br>SV Installation Manager<br>SV Operation Manager<br>SV RAID Manager<br>SV Update Management<br>SV Power Management<br>SV Agents<br>iRMC S2 Advanced Pack<br>Online update packages for BIOS, firmware drivers and ServerView Agents<br>ServerView Integration solutions for Microsoft SMS, MOM, SCOM, SCCM and Altiris<br>Deployment Solution ServerView Deployment Manager (fully functional 30-day trial version) |
| **Option** | ServerView VIOM - Virtual IO Manager<br>ServerView Remote Management<br>ServerView Integration for Tivoli TEC®, Tivoli NetView, HP NNM and HP Operations Manager |
| **Server Management notes** | Regarding Operating System dependencies for ServerView Suite Software Products see dedicated Product Data sheets. |
| **Dimensions / Weight** | |
| **Dimensions (W x D x H)** | 45 x 500 x 210 mm |
| **Weight** | 5,75 kg |

| Environmental | |
|---|---|
| **Temperature note** | In accordance with the corresponding PRIMERGY BX900 System Unit |
| **Operating environment** | FTS 04230 – Guideline for Data Center (installation locations) |
| **Operating environment Link** | http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe |
| **Electrical values** | |

| Compliance | |
|---|---|
| **Germany** | GS |
| **Europe** | CE Class A * |
| **Global** | CB<br>RoHS (Restriction of hazardous substances)<br>WEEE (Waste electrical and electronical equipment) |
| **Compliance notes** | In combination with corresponding PRIMERGY BX system unit<br>There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request.<br>* Warning:<br>This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. |
| **Compliance link** | https://sp.ts.fujitsu.com/sites/certificates/default.aspx |

# Components

| Hard disk drives | |
|---|---|
| | SSD SATA, 3 Gb/s, 64 GB, SLC, non-hot-plug, 2.5-inch, enterprise |
| | SSD SATA, 3 Gb/s, 32 GB, SLC, non-hot-plug, 2.5-inch, enterprise |
| | HDD SATA, 3 Gb/s, 320 GB, 5400 rpm, non-hot-plug, 2.5-inch, economic |
| | HDD SATA, 3 Gb/s, 160 GB, 5400 rpm, non-hot-plug, 2.5-inch, economic |

| Mezzanine Cards | |
|---|---|
| | Fibre Channel Mezzanine Card 2 x 8 Gb Emulex (MC-FC82E), PCIe x4 |
| | CNA Mezzanine Card 2 x 10 Gb Emulex (MC-CNA102E), PCIe Gen2 x8 |
| | Ethernet Mezzanine Card 2 x 10 Gb Fujitsu , PCIe Gen2 x8 |
| | Ethernet Mezzanine Card 4 x 1 Gb Fujitsu , PCIe x4 |
| | InfiniBand CX2 Mezzanine Card 2 x 40 Gb Mellanox , PCIe x8 |

| Warranty | |
|---|---|
| **Standard Warranty** | 3 years |
| **Service level** | (depending on country) |
| **Maintenance and Support Services - the perfect extension** | |
| **Recommended Service** | 7x24, Onsite Response Time: 4h - For locations outside of EMEA please contact your local Fujitsu partner. |
| **Spare Parts availability** | 5 years |
| **Service Weblink** | http://ts.fujitsu.com/Supportservice |

# More information

## Fujitsu platform solutions

In addition to Fujitsu PRIMERGY BX922 S2, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

**Dynamic Infrastructures**
With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

**Computing Products**
www.fujitsu.com/global/services/computing/

**Software**
www.fujitsu.com/software/

## More information

Learn more about Fujitsu PRIMERGY BX922 S2, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
http://ts.fujitsu.com/Primergy

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment.
Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT.
Please find further information at http://www.fujitsu.com/global/about/environment/




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